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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/652,999	08/31/2000	D. Mark Durcan	98-1068.02	6501

7590 03/31/2003

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EXAMINER

NGUYEN, DILINH P

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 03/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/652,999

Applicant(s)

DURCAN ET AL

Examiner

DiLinh Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29 and 67 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29 and 67 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

Claim 29 recites the limitation "said exterior surface to expose **the** part" in line 8.

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 29 and 67 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dennison (U.S. Pat. 5362666) in view of Dennison (U.S. Pat. 6331725).

- Regarding claim 29, Dennison (5362666) discloses the method for forming a container capacitor, comprising the steps of:

providing a cup shaped bottom electrode 42 (cover fig., column 10, lines 35-37);

providing an insulating layer 32 around and in contact with an exterior surface of the cup shaped bottom electrode (fig. 4, column 10, lines 15-20);

etch stop layer 30 is on a first partial circumferential portion of the insulating layer;

etching a second partial circumferential portion of the insulating layer from a partial circumferential part of the exterior surface to expose a part of the exterior surface (figs. 4-5, column 10, lines 15-20);

depositing a dielectric layer 50 on the part of the exterior surface (fig. 6A, column 8, lines 51-55); and

depositing a conductive layer 52 on the dielectric layer.

Dennison (5362666) fails to specify that the etch stop layer is function as a mask.

Dennison (6331725) discloses a hard mask or etch stop layer 31 (fig.5, column 5, lines 5-8) restricts etching of insulating dielectric material layer 30. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Dennison (5362666) to provide the etch stop layer as the hard mask to restrict etching of insulating dielectric layer, as shown by Dennison (6331725).

- Regarding claim 67, Dennison (5362666) discloses a method for forming a container capacitor comprising:

fabricating a cup shape bottom electrode 42 (cover fig., column 10, lines 35-37);

providing an insulating layer 32 around an exterior surface of the cup shaped bottom electrode (figs. 3-4, column 10, lines 15-20), such that an entire vertical height of the exterior surface is in contact with the insulating layer;

etch stop layer 30 is on a first portion of the insulating layer;

etching a second portion of the insulating layer to stop completely on the etch stop layer 30 (fig. 5, column 10, lines 15-17) from a first region of the exterior surface to expose the first region of the exterior surface, such that the insulating layer 32 remains in contact with an entire vertical height of a remaining region of the exterior surface;

depositing a dielectric layer 50 on the first region of the exterior surface; and

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depositing a conductive layer 52 the dielectric layer (fig. 6A, column 8, lines 52-55).

Dennison (5362666) fails to specify that the etch stop layer is function as a mask.

Dennison (6331725) discloses a hard mask or etch stop layer 31 (fig.5, column 5, lines 5-8) restricts etching of insulating dielectric material layer 30. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the device of Dennison (5362666) to provide the etch stop layer as the hard mask to restrict etching of insulating dielectric layer, as shown by Dennison (6331725).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DiLinh Nguyen whose telephone number is (703) 305-6983. The examiner can normally be reached on 8:00AM - 6:00PM (M-F).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703) 308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

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DLN

March 20, 2003

Wael Abouy
SUPERVISORY PRIMARY EXAMINER
TECHNOLOGY CENTER 2600